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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/838,162	04/20/2001	Jeffrey Richard Conrad	10006663-019	9023

			EXAMINER	
7590	08/30/2005		LIN, WEN TAI	

HEWLETT-PACKARD COMPANY
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P.O. Box 272400
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ART UNIT	PAPER NUMBER
2154	

DATE MAILED: 08/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/838,162	CONRAD ET AL.
	Examiner	Art Unit
	Wen-Tai Lin	2154

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _20 June 2005_.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-7 and 10-19_ is/are pending in the application.

  4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-7 and 10-19_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

  a)☐ All b)☐ Some * c)☐ None of:

  1.☐ Certified copies of the priority documents have been received.

  2.☐ Certified copies of the priority documents have been received in Application No. _____.

  3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
    application from the International Bureau (PCT Rule 17.2(a)).

  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
  Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
  Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

1.   Claims 1-7 and 10-19 are presented for examination.

2.   The text of those sections of Title 35, USC code not included in this action can be

found in the prior Office Action.

Claim Rejections - 35 USC § 103

3.   Claims 1-4, 6, 15-16 and 18-19 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Pinto [U.S. PGPub 20020133622].

4.   As to claims 1-2, 4 and 6, Pinto teaches the invention substantially as claimed

including a method of discovering nodes in a network in real time comprising:

seeding a discovery process using at least one of querying a user to provide a

first node information and searching a database of nodes previously discovered by the

network manager to identify the first node [e.g. paragraphs 39 and 42], a depth of

recursion from the first node being limited to limit the discovery process [paragraphs 43-

48; i.e., the depth of a path is limited by the hop count or the maximum number of

available path data];

transmitting a signal from a network manager to the first node of the network,

wherein the signal requests information regarding additional nodes known to the first

node [e.g., based on paragraph 39 the subnet manager could initiate the discovery by

detecting a nearby switch, from which discovery packets are sent out to each of the

ports to discover which devices are connected to that switch];

receiving a response that identifies the additional nodes known to the first node;

repeating the transmitting and receiving steps for each additional node identified;

and

storing a list containing addresses of all identified nodes.

[e.g., Abstract; claim 1]

Pinto does not specifically teach that the method applies to Cisco Discovery

Protocol (CDP) nodes, which uses SNMP to send and receive SNMP messages.

However, SNMP is a widely used protocol in device discovery. For example, in

the same field of endeavor, BANKER teaches using SNMP for communicating between

network devices in the art of network management in a discovery process [e.g., claims 4

and paragraph 2]

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to use SNMP protocol in Pinto's discovery method because Pinto's

system is not limited to the disclosed application examples [paragraphs 16 and 23]; and

the use of a popular protocol would enhance Pinto's method in its application base.

5.   As to claims 15-16 and 18-19, since the features of these claims can also be

found in claims 1-4 and 6, they are rejected for the same reasons set forth in the

rejection of claims 1-4 and 6 above.

6.   Claims 1-7 and 10-19 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Ahearn et al. (hereafter "Ahearn")[U.S. Pat. No. 5926463].

7.   Ahearn was cited in the previous office action.

8.   As to claims 1-2, Ahearn teaches the invention substantially as claimed

including: a method of discovering nodes in a network in real time [Abstract; Figs. 9 and

12] comprising:

        transmitting a signal from a network manager to a first node of the network by

querying a user to provide the first node information [col.15, lines 24-28; col.11, lines 7-

10], wherein the signal requests information regarding additional nodes known to the

first node, a depth of recursion from the first node being limited to limit the discovery

process [col.14, lines 32-37 and line 66- col.15, line 6];

        receiving a response that identifies the additional nodes known to the first node;

repeating the transmitting and receiving steps for each additional node identified; and

storing a list containing addresses of all identified nodes [See, e.g., col.1, line 59 – col.2,

line 3; col.15, lines 23 – 64; and Fig.2C]

Ahearn does not specifically teach that the method applies to Cisco Discovery

Protocol (CDP) nodes.

However, Ahearn teaches that the method uses SNMP queries to discover a

multi-cast tree [Ahearn: col.15, lines 40-54].

It is obvious that Ahearn's method is also applicable to CDP nodes because the latter

also support SNMP (i.e., able to send and receive SNMP messages) [see Applicant's

specification regarding the definition of CDP].

9.   As to claims 3-7, Ahearn teaches imposing limits on a depth search for

additional nodes by establishing a maximum hop limit or a recursion depth limit [col.14,

lines 32-37 and line 66- col.15, line 6].

Ahearn does not specifically teach imposing limits on a breadth search as

required in claims 5 and 7.

However, in a tree structure controlling the depth of a tree also has the effect of

controlling the breadth of the tree.

Furthermore, Ahearn teaches that a user is free to create a hierarchy of limitless depth

(i.e., of any specified depth) to suit his/her needs, if such a representation is desirable

[col.23, lines 9-26].

In light of Ahearn's way of limiting the depth of a tree (which by its discovery

process is a multicast tree) or presenting the tree with a specified depth, it is obvious to

one of ordinary skill in the art that a user of Ahearn's system could control the depth and

breadth of a tree in the discovery process because it is practical to explore an area of

network to barely cover the tree structure (i.e., in terms of depth and breadth) the user

has in mind.

10.   As to claim 10, Ahearn teaches that the method further comprising: performing

the discovery process based upon a user's request or at fixed time intervals [see, e.g.,

Figs. 2A and 2B wherein a timeout parameter is set to limit the response time].

11.   As to claims 11-12, Ahearn teaches that the method further comprising:

displaying the identified nodes in a Graphical User Interface; and

 modifying the list in real time to facilitate real time display of identified nodes as each

node is identified, wherein the real time display is presented as a graphical topology of

the network on a Graphical User Interface [col.21, line 64 – col.22, line 11; Figs. 1, 3-4,

8 and 12-13].

12.   As to claim 13, Ahearn does not specifically teach that the network manager is

Network Node Manager, which is a network management tool from Hewlett-Packard.

        However, it is well known in the art that a variety of network management tools

are available for initiating the discovery of network configuration, monitoring, and

graphically displaying the collected information. It would have been obvious to one of

ordinary skill in the art at the time the invention was made that the Network Node

Manage may optionally be adopted as a network manager in Ahearn's system because

it is a proven network management tool and employing an existing tool could save one

from developing a new network manager.

13.   As to claim 14, Ahearn further teaches that the list further comprises at least one

of information on the interrelation of the identified nodes, device identification

information, and device type information [col.8, line 51 – col.9, line 24; note further that

the device related information is stored in a MIB, which is accessible via SNMP].

14.   As to claims 15-19, since the features of these claims can also be found in

claims 1-7 and 10-14, they are rejected for the same reasons set forth in the rejection of

claims 1-7 and 10-14 above.

15.   Applicant's arguments filed on 6/20/2005 for claims 1-7 and 10-19 have been

fully considered but are moot in view of the new grounds of rejections.

16.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure:

BANKER et al.   [U.S. PGPub 20030156552].

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wen-Tai Lin whose telephone number is (571)272-3969. The examiner can normally be reached on Monday-Friday (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (571)272-3964. The fax phone numbers for the organization where this application or proceeding is assigned are as follows:
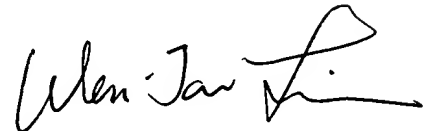
(571)273-8300 for official communications; and

(571)273-3969 for status inquires draft communication.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Wen-Tai Lin

August 25, 2005